

Luke Rutherford
Ettlin
APCSP
12/17/18

2a. Provide information on your computing innovation and computational artifact. Name the computing innovation that is represented by your computational artifact. Describe the computing innovation intended purpose and function. Describe how your computational artifact illustrates, represents or explains the computing innovation intended purpose, its function or its effect.
(100)

My innovation is YouTube. YouTube is a website for sharing videos online that everybody can watch. It is a form of social media where content creators make videos for private and public use. My artifact is about the process of YouTube. My innovations purpose is to create videos for everyone to see. The artifact shows how data packets are sent from the video maker's computer to data center which are then sent to browsers, making them accessible from any computer.

2b. Describe your development process, explicitly identifying the computing tools and techniques you used to create your artifact. Your description must be detailed enough so that a person unfamiliar with those tools and techniques will understand your process. 100

My artifact was made on Google Drawings. It consists of pictures and descriptions that go through the process of uploading videos to YouTube and how the data is transferred. I found the pictures online using a relevant search. The pictures are illustrations of each description. The words are describing each step of YouTube. I found all this information from many articles. I placed the pictures in a circle order then put the description under. I added arrows to show the direction of the steps.

2c. Explain at least one beneficial effect and at least one harmful effect the computing innovation has had, or has the potential to have, on society, economy, or culture.

One beneficial effect of YouTube is the educational videos made. These videos can range from school education to how-to videos. These videos can be a reliable resource on learning new information and skills. If you do not have resources to learn or struggle with instructions it provides a proficient way to visually understand something you did not comprehend before. The wide range of content creators make almost every topic covered, so having trouble looking for something is very unlikely. Each tutorial and how to can be very in depth or just skim or the topic, making levels of understanding personalized.

One harmful effect of YouTube is the risk of security being leaked. Each video has metadata of how long the video is, where the video was uploaded from, geolocations, IP addresses and persistent identifiers. If this information was leaked the privacy of the user is jeopardized. This

could lead to occasions like being swatted, where a viewer wrongly calls the police on the content creator, causing the police to raid where the creator lives, and doxed. Youtube has a privacy policy to counter this but it is constantly breached. Ad companies also have to know private information to sponsor your videos, which creates another way for information to be obtained by random people.

2d . Using specific details, describe: The data your innovation uses. How the innovation consumes (as input), produces (as output), and/or transforms data. At least one data storage concern, data privacy concern, or data security concern directly related to the computing innovation.

The data YouTube uses is packets. These packets are consumed by data centers by wireless transmissions. These packets are then transferred to the viewers computer and are transformed in different orders for every option of quality(144p, 240p, 360p, 480p, 720p, 1080p, and 4K). One data storage concern is all the data is only stored in one center, so if something were to go wrong, all data could be lost. This could destroy users lives because for some people, YouTube is a job. YouTube could make multiple data centers so if one has issues, the data can be sent and stored somewhere else. This should be relatively easy being that YouTube is a multi billion dollar company. The data can be leaked and jeopardize the content creator's private information, leading to events like being doxed or swatted.

2e.

For each online source, include the permanent URL. Identify the author, title, source, the date you retrieved the source, and, if possible, the date the reference was written or posted.

For each print source, include the author, title of excerpt/article and magazine or book, page number(s), publisher, and date of publication.

"How Does YouTube Work? – How It Works." *How It Works Magazine*, Future Plc, 2 May 2017, (www.howitworksdaily.com/how-does-youtube-work/.)

Mills, Matthew. "Data Concerns: YouTube under Fire from Child Advocacy Groups." *Phone Arena*, PhoneArena, 9 Apr. 2018, (www.phonearena.com/news/Data-concerns-YouTube-under-fire-from-child-advocacy-groups_id103912.)

"Negative Effect of YouTube on Society." *How Does YouTube Impact Society?*, (<http://youtubeimpactonsociety.weebly.com/negative-effect-of-youtube-on-society.html>)

